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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,881	10/28/2003	Takashi Kubo	244640US0	4046

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EXAMINER

RONESI, VICKEY M

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,881

Applicant(s)

KUBO ET AL.

Examiner

Vickey Ronesi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 9-17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-17 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/22/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. All outstanding objections and rejections, except for those given below, are withdrawn in light of applicant's amendment filed 6/8/2006.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.
3. The new grounds of rejection set forth below are necessitated by applicant's amendment filed 6/8/2006. In particular, claims 14-22 are new. Thus, the following action is properly made final.

Claim Rejections - 35 USC § 103

4. Claims 1-3, 11-16, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barkey (US 4,217,440) in view of Schiraldi (US 5,922,828).

Barkey discloses branched polyesters used in electrographic toners (col. 10, line 3) prepared by polycondensing a diol such as $\text{RO}-\text{R}^1-\text{OR}^2$ (col. 8, lines 18-56) and diacids such as succinic acid (col. 8, line 57 to col. 9, line 31) in the presence of 0.01-0.1% titanium catalyst (col. 6, lines 51-68) and 0.1-0.5% deactivator such as phosphoric acid (col. 7, lines 15-40). Note col. 7, lines 9-14 where the deactivator is utilized not only added at the end of polycondensation but also utilized to reduce the effectiveness of high reactive catalysts. Given that the resin is a polyester, the composition intrinsically has a softening point of 90-170 °C.

While Barkey is open to the use of any suitable alkoxytitanium catalyst, it fails to explicitly disclose a tetra- $\text{C}_8\text{-C}_{18}$ titanate or amino-modified titanium catalyst.

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Schiraldi discloses a polyester composition and the use of a titanium catalyst and teaches well-known alkoxytitanium catalysts for polyester condensation include compounds of the formula TiX_4 where X is independently $-OR$ or $-NR'_2$, wherein R is a C_1 - C_{10} compound and R_1 is hydrogen or R (col. 5, lines 5-26).

Given that alkoxytitanium catalysts for polyester condensation are known in the art as taught by Schiraldi, it would have been obvious to one of ordinary skill in the art to utilize such conventional catalysts as taught by Schiraldi as the alkoxytitanium catalyst of Barkey.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barkey (US 4,217,440) in view of Schiraldi (US 5,922,828) and further in view of Harazoe et al (US 5,519,112).

The discussion with respect to Barkey and Schiraldi in paragraph 4 above is incorporated here by reference.

Barkey discloses the use of phosphoric acid as deactivator, however, it does not teach the use of polyphosphoric acids.

Harazoe et al discloses a method of preparing polyesters and teaches that phosphoric acid and polyphosphoric acid are stabilizers (col. 5, lines 15-16).

Given that Barkey discloses the use of phosphoric acid as a deactivator, it would have been obvious to one of ordinary skill in the art to utilize polyphosphoric acid because polyphosphoric acid also behaves as a deactivator/stabilizer as taught by Harazoe et al.

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6. Claims 9, 10, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barkey (US 4,217,440) in view of Schiraldi (US 5,922,828) and further in view of Yamamoto et al (US 5,637,427).

The discussion with respect to Barkey and Schiraldi in paragraph 4 above is incorporated here by reference.

Barkey discloses generically discloses the use of a bisphenol as a diol and the use of succinic acid as an exemplary diacid in making its polyester, however, it does not disclose the use of bisphenol A and an alkenyl-substituted succinic acid.

Yamamoto et al discloses toner and teaches that a polyester derived from ethoxylated bisphenol type diols (col. 8, lines 9-37) and alkenyl-substituted succinic acids (col. 8, line 61 to col. 9, line 4) provides for a toner with improved pulverizing properties, powder properties, preservability, fixing properties at low temperatures, impact resistance, and surface lubricating properties (col. 9, lines 5-21).

Since Yamamoto et al teaches the benefits by using particular raw materials in polycondensing a polyester and given that Barkey is already open to the use of a diol such as bisphenol A and a diacid such as succinic acid, it would have been obvious to one of ordinary skill in the art to utilize the raw materials taught by Yamamoto et al in Barkey.

7. Claims 1-5, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harazoe et al (US 5,519,112) in view of Schiraldi (US 5,922,828).

Harazoe et al discloses polyesters prepared by polycondensing raw materials in the presence of a titanium alkoxide catalyst such as titanium tetrabutoxide (col. 5, lines 1-6, 27-41)

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and 0.0001-0.1 wt % inorganic phosphorus compounds such as polyphosphoric acid (col. 5, lines 7-16, 42-46). Note that polyphosphoric acid has at least two phosphate groups, giving a molecular weight of at least 177 g/mol. Given that the resin is a polyester, the composition intrinsically has a softening point of 90-170 °C.

While Harazoe et al is open to the use of any suitable alkoxytitanium catalyst, it fails to explicitly disclose a tetra-C₈-C₁₈ titanate or amino-modified titanium catalyst.

Schiraldi discloses a polyester composition and the use of a titanium catalyst and teaches well-known alkoxytitanium catalysts for polyester condensation include compounds of the formula TiX₄ where X is independently –OR or –NR'₂, wherein R is a C₁-C₁₀ compound and R₁ is hydrogen or R (col. 5, lines 5-26).

Given that alkoxytitanium catalysts for polyester condensation are known in the art as taught by Schiraldi, it would have been obvious to one of ordinary skill in the art to utilize such conventional catalysts as taught by Schiraldi as the alkoxytitanium catalyst of Harazoe.

Allowable Subject Matter

8. Claim 18 is allowed.

The following is a statement of reasons for the indication of allowable subject matter: The inventive and comparative data in the specification as originally filed and in the 37 CFR 1.132 declaration filed 2/15/2006 provide data which are reasonably commensurate in scope with the claims and establish improved properties for a toner comprising formula (II) when Z is an alkoxy group having 8 to 18 carbons atoms and a polyphosphoric acid or salt thereof having a number-average molecular weight of 110 to 1000 as the inorganic phosphorus compound.

Response to Arguments

9. Applicant's arguments filed 6/8/2006 have been fully considered but they are not persuasive. Specifically, applicant argues (A) that none of the references suggest an improvement in properties for a polyester resin toner and (B) that there is no motivation to combined either Barkey or Harazoe et al with Schiraldi.

With respect to argument (A), the 37 CFR 1.132 declaration filed 2/15/2006 has been fully considered, however, this data combined with the data in the application as originally filed are not commensurate in scope with the present claims. Case law holds that evidence is insufficient to rebut a *prima facie* case if not commensurate in scope with the claimed invention. *In re Grasselli*, 713 F.2d 731, 741, 218 USPQ 769, 777 (Fed. Cir. 1983).

With respect to formula (I), applicant only exemplifies one compound of this formula which is titanium diisopropylate bis(triethanolaminate) (catalyst C1). Case law holds that evidence of superior properties in one species insufficient to establish the nonobviousness of a subgenus containing hundreds of compounds. *In re Greenfield*, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978).

With respect to formula (II), applicant only exemplifies compounds of formula (II) when Z is an alkoxy group. It is noted that the data is commensurate in scope for a titanium catalyst of formula (II) with an alkoxy group having 8 to 18 carbon atoms when combined with the phosphorus compound of instant claim 5. Such has been indicated as allowable.

With respect to argument (B), both Barkey and Harazoe et al are open to the use of titanium catalysts other than those explicitly recited. Schiraldi teaches known titanium catalysts (col. 5, lines 5-29), wherein the use of any catalyst would have been obvious to one of ordinary

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skill in the art, absent a showing of unexpected or surprising results. While Schiraldi only discloses organic phosphorus compounds as its stabilizer, Schiraldi is used as a teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/17/2006
Vickey Ronesi



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